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202502UECM3463OE1b

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Started on	Friday, 7 March 2025, 10:33 AM
Completed on	Friday, 7 March 2025, 10:33 AM
Time taken	11 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

You are given:

- The coverage limit is 12,900.
- The expected value of the loss before considering the coverage limit is 9,780.
- The probability of a claim for 12,900 or more is 0.16.
- The mean excess loss at 12,900 is 21,320.

Determine the average claim paid less than 12,900. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 5124.761905
Marks for this submission: 0/1.

2
Marks: 1

You are given the following information:

- The amount of an individual claim has an exponential distribution with mean λ
- The parameter λ has a probability density function given by:

$$\pi(\lambda) = K \lambda^{-3} e^{-20/\lambda}, \lambda > 0$$

where K is a constant.

Determine the expected claim size greater than 20. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 60
Marks for this submission: 0/1.

3
Marks: 1

The probability density function of loss amounts is given by

$$f(x) = 6(350-x)^5/350^6, 0 < x \leq 350$$

An insurance coverage for these losses has an ordinary deductible of 100 Calculate the mean excees loss at 100. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 35.714286
Marks for this submission: 0/1.

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4 📝

Marks: 1

Let X be a discrete random variable with probability generating function

$$P_X(z) = 0.28z^{190} + 0.27z^{570} + 0.25z^{950} + 0.12z^{1330} + 0.08z^{1710}$$

Calculate LER(1,050). _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 0.883401
Marks for this submission: 0/1.

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5 📝

Marks: 1

An individual losses has the Pareto distribution with parameters $a = 3$ and $\theta = 250$ with deductible of 57.2, coinsurance of 79% and a loss limit of 114.40 (before application of the deductible and coinsurance) are applied to each individual loss. Loss sizes are affected by 10% inflation. Determine the variance of the loss payment on the per payment basic. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 209.81
Marks for this submission: 0/1.

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6 📝

Marks: 1

In a major college football program, the revenue from ticket sales for a home game is being modeled as a Pareto distribution with $a = 5$ and $\theta = 1,400,000$. For each home game, the coach receives a bonus only if revenue exceeds 560,000. The amount of bonus is 7% of the revenue in excess of 560,000. If there are 9 home games in each football season, calculate the expected bonus the football coach receives each football season. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 57397.959184
Marks for this submission: 0/1.

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7 📝

Marks: 1

Annual losses follow a Pareto distribution with $a = 2.90$ and $\theta = 1,370$. Calculate $VaR_{0.937}$. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 2184.193492
Marks for this submission: 0/1.

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8 📝

Marks: 1

Annual losses follow a Pareto distribution with parameters $a = 3$ and $\theta = 900$. $TVaR_p = 2,558$, Determine p. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 0.940499
Marks for this submission: 0/1.

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9 📝

Marks: 1

The losses experienced by an insurance company have the following probability distribution:

Loss size	Probability
0	0.60

180	0.25
280	0.10
1,360	0.05

Calculate the $CTE_{0.69}$. _____

Answer: [   ] ✗

Incorrect
Correct answer: 402.580645
Marks for this submission: 0/1.

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10 📝
Marks: 1

Annual losses follow a Gamma distribution with parameters $α = 4$ and $θ = 1000$. $VaR_{0.9} = 6680.78$, Determine $TVaR_{0.9}$. _____

Answer: [   ] ✗

Incorrect
Correct answer: 8168
Marks for this submission: 0/1.